ADVANCED DISTRIBUTED LEARNING

ADL State of the Union

Where We Are and Where We Are Going

Paul Jesukiewicz
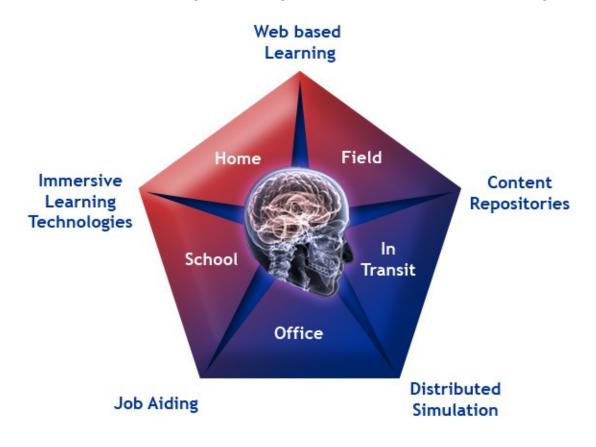
Director

ADL Initiative

08/18/2009

Overview

- Vision
- New Direction
- Structure
- Co-Labs and Partnership Labs
- Partnerships
- Technical Direction
- Research and Evaluation
- Other Activities
- Job Performance Technology Center
- Resources

ADL Vision

Provide access to the highest quality education and training, tailored to individual needs, delivered cost effectively, anywhere and anytime.

New Direction

- Priorities
  - New Strategic Plan (Sep 09)
  - R&D (BAA)
  - Technical
    - Harmonize with global community
    - Extend and Innovate
  - Evaluation
    - DoD ROI (efficiency and effectiveness) data gathering and reporting
  - New Partnerships
  - Restructuring
    - New PM structure
    - Realignment of Co-Labs & Partnership Labs

New Direction – R&D

Broad Agency Announcement (BAA)

W91CRB-08-R-0073

Amendment 2, Topic 7

- Partner with RDECOM-STTC to sponsor research and development

- Leverage projects and initiatives for dual use in both organizations

New Direction – Standards & Specs

- Retain stewardship of SCORM

- Re-engage with standards and specifications bodies including

  - AICC
  - IEEE
  - IMS
  - LETSI
  - Others

- Support organizations that profile ADL work

  - Schools Interoperability Framework Association (SIFA)
  - Medbiquitous

New Direction – Harmonization

- Independent development of point-solutions has caused fragmentation of e-learning technologies

- Contributing Factors

  - Community specific needs

  - Legacy content and systems

  - Advances in technologies (Web 2.0, mobile, etc…)

- ADL will

  - Engage stakeholders to initiate a needs analysis and scoping effort

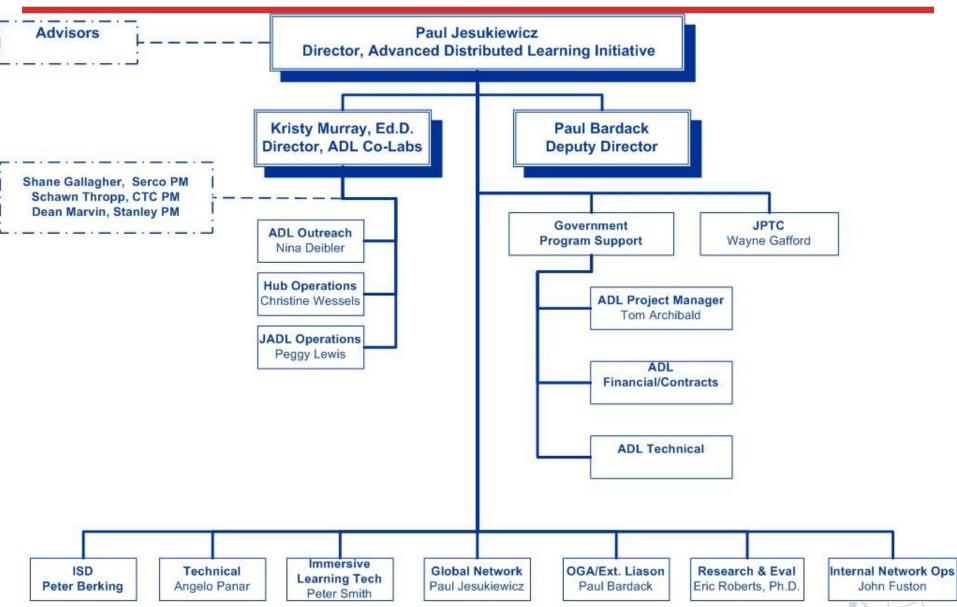 - Lead a harmonization effort and facilitate broad community engagement

New Direction – Generalized API

- The current SCORM model has constrained interoperable innovation

  - LMS-centric delivery and tracking of SCOs

  - A JavaScript enabled host

  - No flexibility for community specific extensions

- ADL will initiate efforts to generalize SCORM API

  - Standards based

  - Broadly support a diverse set of content, delivery, and tracking technologies

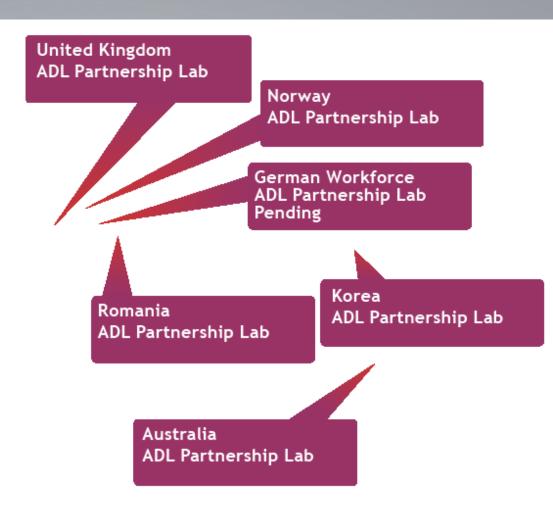 - Phased approach – ultimately leading to a general model

ADL Internal Structure

Advisors

Paul Jesukiewicz
Director, Advanced Distributed Learning Initiative

Kristy Murray, Ed.D.
Director, ADL Co-Labs

Paul Bardack
Deputy Director

Shane Gallagher, Serco PM
Schawn Thropp, CTC PM
Dean Marvin, Stanley PM

ADL Outreach
Nina Deibler

Hub Operations
Christine Wessels

JADL Operations
Peggy Lewis

Government Program Support

JPTC
Wayne Gafford

ADL Project Manager
Tom Archibald

ADL Financial/Contracts

ADL Technical

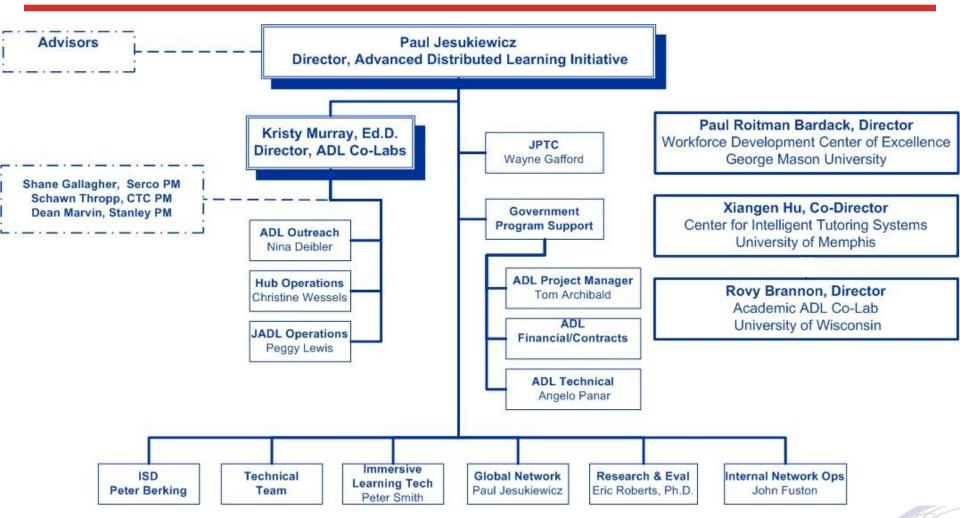| **ISD** Peter Berking | **Technical** Angelo Panar | **Immersive Learning Tech** Peter Smith | **Global Network** Paul Jesukiewicz | **OGA/Ext. Liason** Paul Bardack | **Research & Eval** Eric Roberts, Ph.D. | **Internal Network Ops** John Fuston |

Restructuring

- ADL Hub Co-Lab and Joint ADL Co-Lab are now managed and integrated as one entity

- Migrating Workforce Development from Memphis to GMU

- Changing Workforce Co-Lab In Memphis to Center for Intelligent Tutoring Systems (ITS) Research and Development

- Partnership Labs currently being evaluated
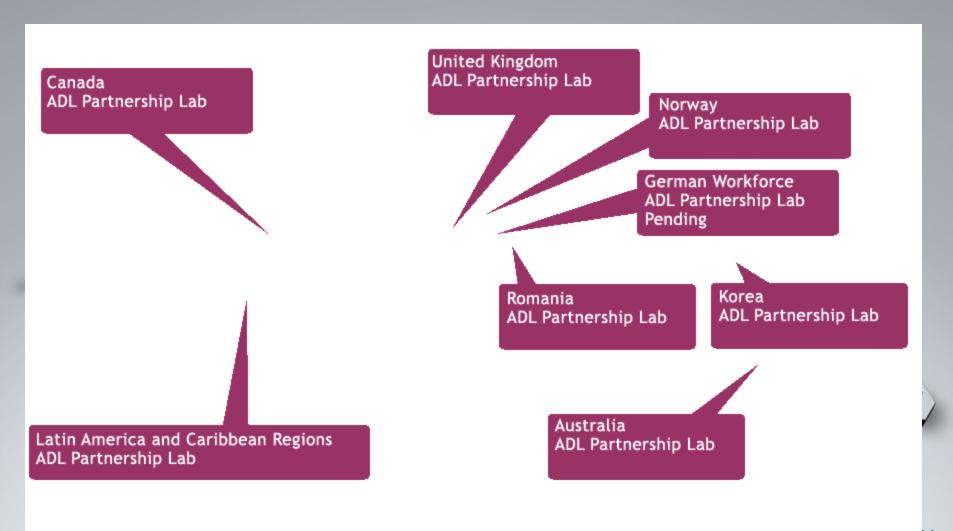 - Current UK Lab may realign with UK MOD

Proposed ADL Internal Structure

Advisors

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Director, Advanced Distributed Learning Initiative

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Director, ADL Co-Labs

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Peggy Lewis

JPTC
Wayne Gafford

Government
Program Support

ADL Project Manager
Tom Archibald

ADL
Financial/Contracts

ADL Technical
Angelo Panar

Paul Roitman Bardack, Director
Workforce Development Center of Excellence
George Mason University

Xiangen Hu, Co-Director
Center for Intelligent Tutoring Systems
University of Memphis

Rovy Brannon, Director
Academic ADL Co-Lab
University of Wisconsin

ISD
Peter Berking

Technical
Team

Immersive
Learning Tech
Peter Smith

Global Network
Paul Jesukiewicz

Research & Eval
Eric Roberts, Ph.D.

Internal Network Ops
John Fuston

Proposed ADL Labs & Centers

Canada
ADL Partnership Lab

United Kingdom
ADL Partnership Lab

Norway
ADL Partnership Lab

German Workforce
ADL Partnership Lab
Pending

Romania
ADL Partnership Lab

Korea
ADL Partnership Lab

Latin America and Caribbean Regions
ADL Partnership Lab

Australia
ADL Partnership Lab

Expanding Existing Partnerships

- Defense Acquisition University (DAU)
  - Will be co-locating the DAU Teaching and Learning Lab at Joint ADL Co-Lab
  - Research on game and virtual worlds applications to support training
- Office of Science & Technology Policy (OSTP) – Executive Office of the President
  - Ed Tech Working Group
    - DoD designated as leader in learning technology research
    - Interest in CORDRA/ADL-R as framework for entire government
    - Interest in DARPA's Educational Dominance program
    - DoD (ADL and DARPA) advising and participating in ongoing working group meetings

Expanding Existing Partnerships

- ## U.S. JFCOM
  - Key user of ADL technologies (SCORM, ADL-R, ITS, Gaming)
  - Coded JKO LCMS to provide updates to ADL-R (dependent upon ADL-R deployment to NIPRNET)
  - Development of web-based courseware production capability (ROCCE) integrated with the JKO LMS
  - Currently in use by the COCOMs
  - Supporting M-FASR initiative

- ## Office of Naval Research (ONR)
  - The Multimodal Enabled Advanced Distributed Learning (ME ADL) Project
  - Advanced Distance Learning S&T workshop
  - Leveraging S&T resources

New Partnerships

- George Mason University (GMU)
  - Proposed new Workforce Development Center of Excellence (Sep 09)
  - Will promote the use of ADL technologies across America's workforce
- Naval Postgraduate School (NPS)
  - Collaboration with MOVES Institute
  - Focus on R&D, prototyping, evaluation
    - Immersive technologies, simulation, gaming, virtual worlds
    - Mobile
    - S1000D
    - ROI studies

Technical Direction

SCORM and the ADL Registry

SCORM 2004 4th Edition

- Released Version 1.1 on August 14, 2009
  - Incorporates 2 ½ years of community feedback
  - Increases interoperability
  - Provides new features
- Supporting products updated and released
  - SCORM Testing Requirements
  - Test Suite
  - Sample Run-Time Environment (SRTE)
  - ADL RELOAD Editor
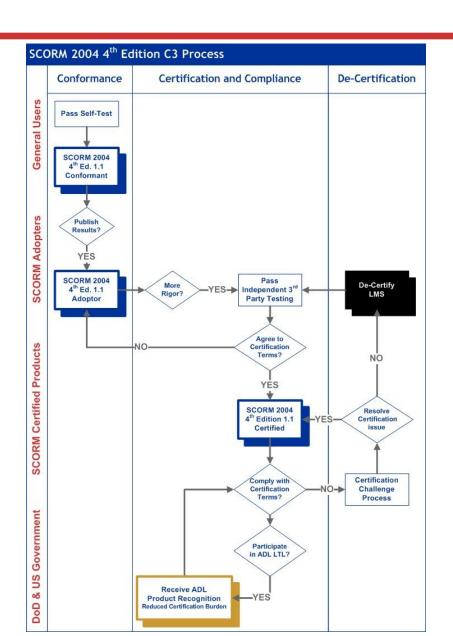
New Certification Process Workflow

SCORM 2004 4th Edition C3 Process

Check-out the break-out session:
SCORM 2004 4TH EDITION

ADL Registry Version 1.7

- **New Features**
  - **Multiple typed locations**
    - Allows contributors to provide one or more ways of experiencing the object
  - **Search receipts**
    - Allows searchers to prove that a search was executed

  - **Registry transaction file (REG-T) schema changes**
    - Minimal changes were made to support the new features

ADL Registry Contract Award

- New Contract Award (Aug 6th)

- Two-phased Effort

  1. Technology and Adoption Assessment – Current Policy, Architecture, & Usage (ICF lead)

  2. Finding a new .mil home, operationally testing candidates such as JFCOM, DISA, DMDC, Services, etc. against ADL-R requirements (BAH Lead)

Check-out the break-out session:
THE NEW ADL REGISTRY

Advanced Distributed Learning

Technical Direction

M-FASR

M-FASR Participants

- Purpose
  - To develop an infrastructure to allow multiple nations to search, discover, view, and share technical and instructional content

- Current Participants

Federated Search

- Metadata from participating registries federates to the Registry of Registries (RoR)

- The RoR serves as an metadata aggregator, enabling effective single-point search

- In contrast, distributed search would require the query to be submitted to multiple registries

  - Incurring potential network latency and availability

  - Requiring results to be filtered and post-processed

  - Losing relevant results due to semantic differences in metadata

Check-out the break-out session:

ADL PARTNERSHIP LABS

Technical Direction

Immersive Learning Technologies

ILT Focus Areas

- Game-based Training (Serious Games)

- Virtual Worlds

- Mobile Devices

- Web 2.0

Potential of Immersive Training

- Current beliefs
  - Better than conventional CBT
  - Faster than classroom
  - Cheaper than simulation

- Issues
  - Currently not enough research
  - No standards/metrics for doing research
  - No agreed upon definitions

Current ILT Initiatives

- Virtual World Standards Working Group Meetings
  - A working group comprised of experts in virtual worlds explore coming standards and the potential role of ADL
- Immersive Learning Pod-Cast Series
  - A coming series of pod casts where members of the ILT Team sit down with leaders in the ILT space

PodCast

Current ILT Virtual World Initiatives

- Virtual World Test Bed
  - The test bed will be comprised of over a dozen functioning virtual worlds allowing us to test and compare affordances

- Team Orlando SecondLife Island
  - Part of Linden Labs MiLands Initiative, the ADL will be developing demonstrations and tests of ADL technologies

- Games Test Bed
  - The test bed contains many of the games and supporting technologies used by the DoD today
- Mini-Game Development
  - A group of small games being developed with DAU covering many topics in their current curriculum

Research and Evaluation

R&E Areas of Interest

- Programmatic Impact

  - ADL's Evaluation Team has been re-named and is being re-oriented toward assessments of how ADL technologies positively affect member organizations.

- Time-to-Train = ?

  - For example a "time-to-train" study, using Navy statistics, found that ADL technology-based instruction reduced seat time by as much as 47% -- while holding achievement constant.

  - We now choose to try to push the analysis to identify what mission tasks the Navy was able to achieve with that saved time.

On-going Projects

- Defense Ammunition Center (DAC)

- Navy ILE

- Battle Command Knowledge System (BCKS)

- Defense Acquisition University (DAU)

Check-out the break-out session:

RESEARCH ON SOCIAL NETWORKS IN LMS

Check-out the break-out session:

IMPLEMENTING A TRAINING INTERVENTION TO INCREASE LEARNING AND REDUCE ATTRITION

Other ADL Activities

NATO Training Group (NTG)

- NATO Training Group – Working Group on Individual Training & Educational Developments (NTG-IT&ED)

- Chairman – Joe Camacho (JFCOM)

- U.S. Delegate – Paul Jesukiewicz (OSD P&R)

- ADL Subgroup – LtCdr Geir Isaksen, (ADL SG CM)
  - Shared research, shared content
  - Joint projects (MFASR)
  - Bilateral agreements
  - Partnership for Peace (PfP) consortium shared use of open source LMS (ILIAS) and authoring tools

NATO WG TEPSO Course

- ADL developed course for NATO Working Group - Training and Education for Peace Support Operations (TEPSO)
    - *Public Information Operations (PIO) Course*
    - ~1 hour seat time
- Used
    - New SCORM Editor in ILIAS to author
    - SCORM 2004 sequencing to deliver different content for three user groups
- Awaiting final SME review and approval

Virtual Cultural Awareness Trainer

- Investigate instructional strategies using Virtual Worlds to augment/enhance the existing VCAT POI
  - Synchronous/Asynchronous learning opportunities
  - Guided Practice / Pre-deployment
- Integrate Assessment middleware into a Virtual World
  - Collect user performance information from multiple individuals simultaneously and determine proficiency for each user based on their role
  - Collect Assessment data from multiple, disparate systems (Nexus and SGST)
- Identify requirements for delivering this capability via JKO

Check-out the break-out session:

RESEARCH ON CURRENT CAPABILITIES, ISSUES, AND TRENDS IN LMSs AND AUTHORING TOOLS

Advanced Distributed Learning

Job Performance Technology Center (JPTC)

JPTC Vision

- Support job performance through standards-based information technology

- Link learning content, in support of job performance, to authoritative sources

- Allow requirements *and* performance gaps to drive learning objectives

- Ensure learning content is accurate and available for job performance

Problems JPTC is Solving

- Absence of

  - Life cycle-based content management practices for ADL learning content

  - Timely change notifications for ADL learning content

  - Links in ADL learning content to authoritative sources

JPTC Solution

S1000D — THE BRIDGE PROJECT — SCORM

- Identifying learning/training performance objectives at the product design stage

- Integrating SCORM learning content tools into common source databases

- Designing technical learning content for better reuse in technical publications

- Developing "change notification" services to ensure training is notified when products are redesigned

Next Questions for JPTC

- How are learning content development, performance support, and retraining improved by the use of

  - Competency models?

  - Mobile devices?

  - Open source software?

  - Registries?

ADL Resources

Learning Technology Lab

- Vendor-neutral Evaluation Environment
  - Hosted at ADL Co-Lab Hub in Alexandria, VA – Virtually at JADL
  - Expert support to help resolve interoperability concerns
  - Unbiased facilitation for dispute resolution

- Will host a variety of LMS, LCMS, and authoring tools
  - Support test and evaluation of content across platforms Showcase exemplar content and tools
  - Enable rapid troubleshooting to quickly identify problem areas

Games & Virtual World Lab

- Research environment hosted at the Joint ADL Co-Lab in Orlando, FL

    - Evaluate interoperability of immersive technologies with learning systems

    - Perform research to determine the instructional potential of immersive technology

    - Capture pertinent metrics related to assessment and tracking of student performance in immersive environments

Learning Opportunities

- Webinars: 1-hour sessions each week
  - Current topics
    - SCORM 2004 4th Edition Overview
    - Creating Reusable Content with SCORM 2004
    - Sequencing SCORM 2004 Content (2-part series)
    - Contributing to the ADL Registry Version 1.7
    - Federated Registry Architectures
    - Choosing Authoring Tools
    - Visual Design Principles for Reusable Learning Content
  - Custom sessions may be available
  - For details, visit www.ADLNet.gov

Learning Opportunities

- Online Office Hours

  - Every Thursday from 1:00 - 3:00 PM Eastern

  - Instructional Systems Designer (ISD) and technical expert support

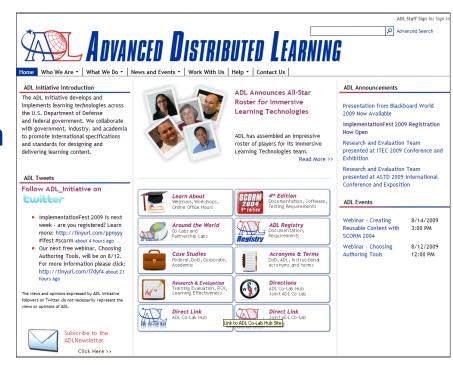 - For details, visit www.ADLNet.gov

Communications

- Bookmark ADLNet.gov
  - Topic sections with new feature stories each month
  - More resources for designers and developers
- *ADL Initiative Insights* Newsletter (monthly)
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Questions or Comments?

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